

## **REMARKS/ARGUMENTS**

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the following remarks:

### **I. STATUS OF THE CLAIMS AND FORMAL MATTERS**

Claims 1-27 are currently pending. Claims 1-8, 10-13, 15 and 18 were rejected. Claims 9, 14, 16, 17 and 27 were objected to in the Office Action.

### **II. REJECTIONS UNDER 35 U.S.C. §103(a)**

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,717,214 to Kitamura et al. ("Kitamura") in view of U.S. Patent No. 3,665,193 to Kozlov et al. ("Kozlov"). Claims 5-8 and 10-13 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Kitamura and Kozlov in view of Krammer et al. ("CVD diamond sensors for charged particle detection"). Claims 15, 18-26 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Kitamura in view of Krammer et al.

Independent claim 1 recites, *inter alia*:

"Detector for detecting a high-intensity and high-energy particle beam, which comprises ...

... substrate comprising a ceramic plate having a central orifice, which is covered by the diamond plate." (emphasis added)

As understood by the Applicants, Kitamura relates to an X-ray beam position monitor, which includes a diamond plate placed so that the X-ray beam passes through diamond plate, and a plurality of electrode pairs placed on both sides of the diamond plate.

As understood by the Applicants, Kozlov relates to a diamond nuclear radiation detector comprising a diamond crystal plate and contacts on the opposite sides of the plate adapted for the

application of an electric field to the diamond crystal plate. The contact on the side of the crystal plate to be irradiated in the course of detecting nuclear radiation is constituted as a blocking contact in relation to charge carriers. Kozlov further discloses that such a contact may be provided by the graphitized surface of the diamond crystal plate and by doping the surface layer of the plate with boron, aluminum, phosphorus, lithium and carbon.

In paragraph 2 of the Office Action, the Examiner contends that Kitamura discloses a detector comprising a ceramic plate substrate with a central orifice. Applicants respectfully disagree.

Applicants submit that Kitamura neither teach or discloses a substrate comprising a ceramic plate nor a substrate having a central orifice or for that effect, any substrate having a central orifice covered by a diamond plate. Applicants further submit that the reference numeral 22 of Kitamura does not refer to an orifice in a substrate or a ceramic plate but to a central through hole in the diamond plate itself. Furthermore, none of the other cited references (Kozlov and Krammer) teach or suggest this feature of claim 1. Specifically, none of the cited references teach or disclose a substrate comprising a ceramic plate or a substrate having a central orifice or a substrate or an orifice in a substrate being covered by a diamond plate, as recited in claim 1.

Therefore Applicants respectfully submit that claim 1 is patentable. For at least the foregoing reasons, claim 15, which is similar in scope, is also patentable.

The other claims are dependent from an independent claim, discussed above, and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

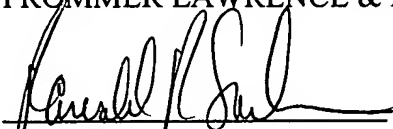
**CONCLUSION**

In view of the foregoing remarks, it is believed that all of the claims in this application are patentable and Applicant respectfully requests early passage to issue of the present application.

The Commissioner is authorized to charge any additional fees that may be required to Deposit Account No. 50-0320.

Respectfully submitted,  
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By:

  
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